

Serial No. 10/759,523
60130-1987; 03MRA0008

IN THE CLAIMS:

1. (CURRENTLY AMENDED) A disc brake assembly comprising:
a brake caliper having an outboard side;
a brake pad;
a pad spring including a spring planar region, wherein the pad spring is substantially elongate and defines a longitudinal direction; and
a pad retainer including a retainer planar region positioned at a first radius to restrain radial movement of the brake pad, wherein the pad retainer is secured to the outboard side of the brake caliper at a second radius that is less than the first radius, the pad retainer further including a crook at an end of the retainer planar region, wherein the spring planar region engages the pad retainer, thereby defining an engaging region of the spring planar region, and a lateral edge region of the engaging region adjacent to the outboard side of the brake caliper is defined by a laterally and downwardly extending spring lug having an upper surface, wherein the upper surface defines a rounded edge.
- 2-3. (CANCELLED)
4. (ORIGINAL) The disc brake assembly according to claim 1 wherein the pad spring is substantially curved.
5. (PREVIOUSLY PRESENTED) The disc brake assembly according to claim 1 further including a backplate, wherein the pad spring further includes radially outwardly curved ends that limit circumferential movement of the pad spring relative to the backplate.
6. (ORIGINAL) The disc brake assembly according to claim 5 wherein the backplate includes complementary curved surfaces for abutment with the radially outwardly curved ends of the pad spring.

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7. (PREVIOUSLY PRESENTED) The disc brake assembly according to claim 1 further including a backplate having a backplate protrusion, wherein the pad spring further includes an aperture, and wherein the backplate protrusion of the backplate is located in the aperture of the pad spring to prevent axial movement between the pad spring and the backplate.
8. (PREVIOUSLY PRESENTED) The disc brake assembly according to claim 7 wherein the pad spring includes a spring protrusion located around the backplate to assist in preventing axial movement between the pad spring and the backplate.
9. (PREVIOUSLY PRESENTED) The disc brake assembly according to claim 1 wherein the crook has a crook radius that allows the second radius to be less than the first radius, and wherein the crook radius is substantially equal to a lateral edge radius of the lateral edge region of the pad spring, and wherein the lateral edge region of the pad spring is adjacent to the crook.
10. (ORIGINAL) The disc brake assembly according to claim 9 wherein the crook radius is between 4.0 mm and 8.0 mm.
11. (ORIGINAL) The disc brake assembly as related in claim 10 wherein the crook radius is between 5.0 mm and 7.0 mm.
12. (ORIGINAL) The disc brake assembly as recited in claim 11 wherein the crook radius is between 5.25 mm and 6.75 mm.

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13. (CURRENTLY AMENDED) A disc brake assembly comprising:

a brake caliper having an outboard side;

a brake pad;

a pad spring including a spring planar region, radially outwardly curved ends and an aperture, wherein said pad spring is substantially elongate and defines a longitudinal direction;

a pad retainer including a retainer planar region positioned at a first radius to restrain radial movement of the brake pad, wherein the pad retainer is secured to the outboard side of the brake caliper at a second radius that is less than the first radius, the pad retainer further including a crook at an end of the retainer planar region, wherein the spring planar region engages the pad retainer, thereby defining an engaging region of the spring planar region, and a lateral edge region of the engaging region adjacent to the outboard side of the brake caliper is defined by a laterally and downwardly extending spring lug having an upper surface, wherein the upper surface defines a rounded edge; and

a backplate including complementary curved surfaces and a backplate protrusion, wherein the radially outwardly curved ends of the pad spring radially retain the pad spring on the backplate and the complementary curved surfaces of the backplate abut the radially outwardly curved ends of the pad spring, and wherein the backplate protrusion of the backplate is located in the aperture of the pad spring to prevent axial movement between the pad spring and the backplate.

14. (CURRENTLY AMENDED) The disc brake assembly according to claim 1 wherein the brake caliper includes an inboard side, and wherein a second lateral edge region of the engaging region of the spring planar region adjacent to the inboard side of the brake caliper is defined by a second laterally and downwardly extending spring lug having a second upper surface, wherein the second upper surface defines a second rounded edge.

15. (PREVIOUSLY PRESENTED) The disc brake assembly according to claim 1 wherein the pad spring is defined by a length and a width, wherein the engaging region of the spring planar region that engages the pad retainer defines a maximum width of the pad spring.

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16. (PREVIOUSLY PRESENTED) The disc brake assembly according to claim 15 wherein the pad spring includes longitudinal ends, wherein the longitudinal ends have a reduced width that is less than the maximum width.

17. (CURRENTLY AMENDED) The disc brake assembly as defined in claim 15 wherein the pad spring has a pad spring inboard side and a pad spring outboard side, and the maximum width of the pad spring is defined by ~~an outboard lug portion~~ the laterally and downwardly extending spring lug projecting from the pad spring outboard side and an inboard lug portion a second laterally and downwardly extending spring lug projecting from the pad spring inboard side, ~~wherein the lateral edge region is defined by the outboard lug portion.~~

18. (CURRENTLY AMENDED) The disc brake assembly as defined in claim 17 wherein ~~the inboard lug portion and the outboard lug portion are~~ a second laterally and downwardly extending spring lug is bent downwardly to provide the lateral edge region and a second lateral edge region, respectively, of the engaging region of the spring planar region that engages the pad retainer.

19. (CURRENTLY AMENDED) The disc brake assembly as defined in claim 17 wherein ~~the pad spring further include~~ second laterally and downwardly extending spring lug provides a second lateral edge region that is defined by the inboard lug portion.

20. (PREVIOUSLY PRESENTED) The disc brake assembly as defined in claim 1 wherein the engaging region of the spring planar region that engages the pad retainer has a substantially curved cross-section.

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21. (NEW) A method of making a disc brake assembly including a brake caliper having an outboard side, a brake pad, a pad spring including a spring planar region that is substantially elongate and defines a longitudinal direction, and a pad retainer including a retainer planar region positioned at a first radius to restrain radial movement of the brake pad,

wherein the pad retainer is secured to the outboard side of the brake caliper at a second radius that is less than the first radius, the pad retainer further including a crook at an end of the retainer planar region, wherein the spring planar region engages the pad retainer, thereby defining an engaging region of the spring planar region, and a lateral edge region of the engaging region adjacent to the outboard side of the brake caliper is defined by a laterally and downwardly extending spring lug having an upper surface, wherein the upper surface defines a rounded edge, the method comprising the steps of:

stamping a pad spring blank from sheet metal to form the pad spring including a laterally extending spring lug;

performing a pressing operation to bend the laterally extending spring lug downwardly to provide the laterally and downwardly extending spring lug and to round the upper surface of the laterally and downwardly extending spring lug to form the rounded edge; and

assembling the disc brake assembly.